

## 256 CONDENSERS AND COOLING TOWERS

Engineering Co., for instance, use diamond-shaped splashbars supported in hurdles and grouped as shown in fig. 33. Messrs. Richardson, Westgarth, & Co., Ltd., adopted splashbars with convex top after the results of experiments by Mr. I. V. Robinson.\* The method of experiment adopted consisted in allowing 50 drops of coloured water to fall in one minute from a height of 36 in. on to the length of bar under test. The water which rebounded was allowed to fall on a sheet of white paper. Counting the spots on the paper and noting their general positions led to the adoption of the section above-mentioned, The under side of each bar has cross-cuts

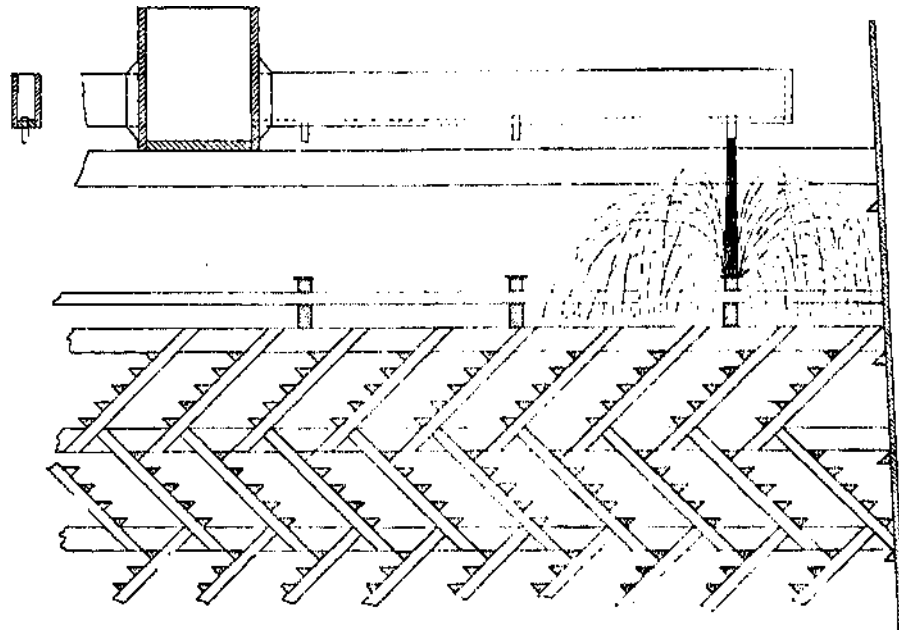


Fig. 32.—Arrangement of Splash-bars, &c.—Premier Cooler and Engineering Company

spaced about 1½ in. apart to ensure that the water would drop off in fine streams.

All the timber forming the structure of the tower should be treated with some preservative such as creosote or sideroleum. The boarding is placed on the inside of the framework, so as to give as smooth a surface as possible inside, and these boards should fit close together to prevent ingress of cold air in the chimney. All the bolts and plates used are preferably galvanized to save frequent painting. The main framework needs to be well anchored down to stable foundations to withstand the overturning

force or moment due to wind pressure. For calculation purposes the wind pressure may be taken at about 60 lb. per square foot of section exposed to the wind.

The size of a chimney cooler depends largely upon the amount of water to be cooled, the fall of temperature required, the amount of air which can

\* " Cooling Towers ", West of Scotland Iron and Steel Institute, 1907.